

## PRODUCT SUMMARY

### KODAK KAF-6303E IMAGE SENSOR

3072 (H) X 2048 (V) FULL FRAME CCD IMAGE SENSOR

#### DESCRIPTION

The KAF-6303E is a high performance monochrome area CCD (charge-coupled device) image sensor with 3072H x 2048V photo active pixels designed for a wide range of image sensing applications in the 0.3 nm to 1.0 nm wavelength band. Typical applications include military, scientific, and industrial imaging. A 74dB dynamic range is possible operating at room temperature.

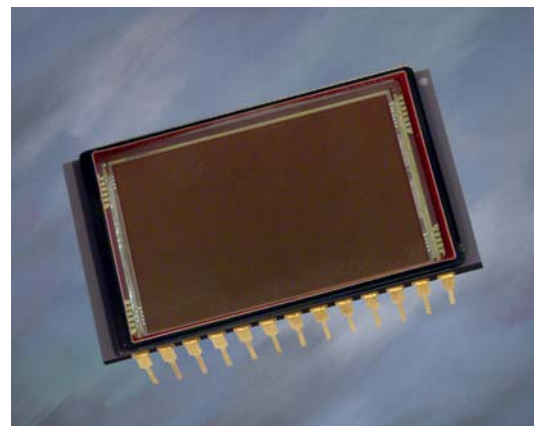
The sensor is built with a true two-phase CCD technology. This technology simplifies the support circuits that drive the sensor and reduces the dark current without compromising charge capacity. The transparent gate results in spectral response increased ten times at 400nm, compared to a front side illuminated standard polysilicon gate technology. The sensitivity is increased 50% over the rest of the visible wavelengths. Total chip size is 29.0 mm x 19.1 mm and is housed in a 26-pin, 0.88" wide DIL ceramic package with 0.1" pin spacing.

#### FEATURES

- 6M Pixel Area CCD
- 3072H x 2048V (9  $\mu$ m) Pixels
- Transparent Gate True Two Phase Technology (Enhanced Spectral Response)
- 2-Phase Register Clocking
- 100% Fill Factor
- Low Dark Current (<10pA/cm<sup>2</sup> at 25° C)

#### APPLICATION

- Medical Imaging
- Scientific Imaging



Parameter	Typical Value
Architecture	Full Frame CCD
Total Number of Pixels	3088(H) x 2056(V)
Number of Active Pixels	3072 (H) x 2048 (V) = approx. 1.6 M
Pixel Size	9 $\mu$ m (H) x 9 $\mu$ m (V)
Active Image Size	27.65 mm (H) x 18.48 mm (V)
Chip Size	29.0 mm (H) x 19.1 mm (V)
Saturation Signal	100,000 electrons
Output Sensitivity	10 $\mu$ V/electron
Quantum Efficiency (450, 550, 650 nm)	40%, 52%, 65%
Readout Noise (10 MHz)	15 electrons rms
Dark Current (T = 25° C, Accumulation Mode)	<10pA/cm <sup>2</sup>
Dark Current Doubling Rate	6°C
Dynamic Range (Saturation Signal/Dark Noise)	76 dB
Maximum Data Rate	10 MHz
Package	CERDIP Package (sidebrazed)
Cover Glass	Clear or AR coated, 2 sides

## ORDERING INFORMATION

Catalog Number	Product Name	Description	Marking Code
4H0703	KAF- 6303-AAA-CD-B2	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Grade 2	KAF-6303-AAA [Serial Number]
4H0704	KAF- 6303-AAA-CD-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Clear Cover Glass with AR coating (both sides), Engineering Sample	
4H0481	KAF- 6303-AAA-CP-B2	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Grade 2	
2H4478	KAF- 6303-AAA-CP-AE	Monochrome, No Microlens, CERDIP Package (sidebrazed), Taped Clear Cover Glass, no coatings, Engineering Sample	
4H0079	KEK-4H0079-KAF-6303-12-5	Evaluation Board (Complete Kit)	N/A

Please see ISS Application Note “Product Naming Convention” (MTD/PS-0892) for a full description of naming convention used for KODAK image sensors.

For all reference documentation, please visit our Web Site at [www.kodak.com/go/imagers](http://www.kodak.com/go/imagers).

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